

AMENDMENT TO THE CLAIMS

1. (Currently amended) An aqueous resin composition having gas barrier properties, which comprises

- (i) a polyurethane resin having a urethane group and a urea group in a total concentration of 25 to 60% by weight and having an acid group,
- (ii) a swelling inorganic layered compound, and
- (iii) a polyamine compound,

wherein the polyurethane resin (i) is a resin an aqueous polyurethane resin obtained by reacting a polyisocyanate compound (A), a polyhydroxyalkanecarboxylic acid (B) and a chain-extension agent (D), and neutralizing the resultant product with a neutralizing agent, the chain-extension agent (D) is at least one member selected from the group consisting of a diamine, hydrazine and a hydrazine derivative;

the polyamine compound (iii) is at least one member selected from the group consisting of an alkylendiamine, a hydroxyl group-containing diamine, a polyalkylenepolyamine, an N-alkyl substituted alkylendiamine, an N-alkyl substituted polyalkylenepolyamine, an alicyclic polyamine, an aromatic polyamine, an adduct of the polyamine compound with an alkylene oxide and a urethane-modified polyamine compound; and

the proportion of the acid group of the polyurethane resin (i) relative to the basic nitrogen atom of the polyamine compound (iii) is 3/1 to 1/2 as an equivalent ratio.

2. (Currently amended) A resin composition according to claim 1, wherein the polyisocyanate compound (A) contains at least one member selected from the group consisting of an aromatic polyisocyanate, an araliphatic polyisocyanate and an alicyclic polyisocyanate, and the chain-extension agent (D) is at least one member selected from the group consisting of a diamine, hydrazine and a hydrazine derivative.

3. (Currently amended) A resin composition according to claim 1, wherein the polyurethane resin (i) is a resin obtained by reacting the polyisocyanate compound (A), the polyhydroxyalkanecarboxylic acid (B), a polyol compound (C) and the chain-extension agent (D), and neutralizing the resultant product with a neutralizing agent;

the polyisocyanate compound (A) contains at least one member selected from the group consisting of an aromatic polyisocyanate, an araliphatic polyisocyanate and an alicyclic polyisocyanate in a proportion of not less than 30% by weight in the polyisocyanate compound; and

the polyol compound (C) contains a polyol component having 2 to 8 carbon atoms in a proportion of not less than 90% by weight in the polyol compound; and

~~the chain-extension agent (D) is at least one member selected from the group consisting of a diamine, hydrazine and a hydrazine derivative.~~

4. (Previously presented) A resin composition according to claim 1, wherein the component (A) in the polyurethane resin (i) contains at least one member selected from the group consisting of a xylylene diisocyanate and a hydrogenated xylylene diisocyanate.

5. (Original) A resin composition according to claim 1, wherein the swelling inorganic layered compound (ii) comprises at least one member selected from the group consisting of a water-swelling mica and a montmorillonite.

6. (Previously presented) A resin composition according to claim 15, wherein the acid value of the polyurethane resin (i) is 16 to 50 mgKOH/g, and the amine value of the polyamine compound (iii) is 300 to 1500 mgKOH/g.

7. (Original) A resin composition according to claim 1, wherein the ratio of the swelling inorganic compound (ii) relative to the polyurethane resin (i) is 1/100 to 200/100 in terms of solid content.

8. (Previously presented) A gas barrier laminated film comprising a base film, and a layer formed on at least one surface of the base film, wherein the layer comprises an aqueous resin composition recited in claim 1.

9. (Previously presented) A gas barrier laminated film comprising a base film, and a layer formed on at least one surface of the base film, wherein the layer comprises an aqueous resin composition recited in claim 2.

10. (Previously presented) A gas barrier laminated film comprising a base film, and a layer formed on at least one surface of the base film, wherein the layer comprises an aqueous resin composition recited in claim 3.

11. (Previously presented) A gas barrier laminated film comprising a base film, and a layer formed on at least one surface of the base film, wherein the layer comprises an aqueous resin composition recited in claim 4.

12. (Previously presented) A gas barrier laminated film comprising a base film, and a layer formed on at least one surface of the base film, wherein the layer comprises an aqueous resin composition recited in claim 5.

13. (Previously presented) A gas barrier laminated film comprising a base film, and a layer formed on at least one surface of the base film, wherein the layer comprises an aqueous resin composition recited in claim 6.

14. (Previously presented) A gas barrier laminated film comprising a base film, and a layer formed on at least one surface of the base film, wherein the layer comprises an aqueous resin composition recited in claim 7.

15. (Currently amended) An aqueous resin composition having gas barrier properties, which comprises

- (i) a polyurethane resin having a urethane group and a urea group in a total concentration of 25 to 60% by weight and having an acid group,
- (ii) a swelling inorganic layered compound, and
- (iii) a polyamine compound,

wherein the polyurethane resin (i) is ~~a resin~~ an aqueous polyurethane resin obtained by reacting a polyisocyanate compound (A), a polyhydroxyalkanecarboxylic acid (B) and a chain-extension agent (D), and neutralizing the resultant product with a neutralizing agent; ~~agent, and the chain-extension agent (D) is at least one member selected from the group consisting of a diamine, hydrazine and a hydrazine derivative,~~

~~the polyamine compound (iii) is at least one member selected from the group consisting of an alkylendiamine, a hydroxyl group-containing diamine, a polyalkylenepolyamine, an N-alkyl substituted alkylendiamine, an N-alkyl substituted polyalkylenepolyamine, an alicyclic polyamine, an aromatic polyamine, an adduct of the polyamine compound with an alkylene oxide and a urethane-modified polyamine compound.~~

the proportion of the acid group of the polyurethane resin (i) relative to the basic nitrogen atom of the polyamine compound (iii) is 3/1 to 1/2 as an equivalent ratio, and

the acid value of the polyurethane resin (i) is 15 to 60 mgKOH/g, and the amine value of the polyamine compound (iii) is 200 to 1700 mgKOH/g.

16. (Currently amended) A resin composition according to claim 15, wherein the polyisocyanate compound (A) contains at least one member selected from the group consisting of an aromatic polyisocyanate, an araliphatic polyisocyanate and an alicyclic polyisocyanate, ~~and the chain-extension agent (D) is at least one member selected from the group consisting of a diamine, hydrazine and a hydrazine derivative.~~

17. (Currently amended) A resin composition according to claim 15, wherein the polyurethane resin (i) is a resin obtained by reacting the polyisocyanate compound (A), the polyhydroxyalkanecarboxylic acid (B), a polyol compound (C) and the chain-extension agent (D), and neutralizing the resultant product with a neutralizing agent;

the polyisocyanate compound (A) contains at least one member selected from the group consisting of an aromatic polyisocyanate, an araliphatic polyisocyanate and an alicyclic polyisocyanate in a proportion of not less than 30% by weight in the polyisocyanate compound; and

the polyol compound (C) contains a polyol component having 2 to 8 carbon atoms in a proportion of not less than 90% by weight in the polyol compound; and

~~the chain extension agent (D) is at least one member selected from the group consisting of a diamine, hydrazine and a hydrazine derivative.~~

18. (Previously presented) A resin composition according to claim 15, wherein the component (A) in the polyurethane resin (i) contains at least one member selected from the group consisting of a xylylene diisocyanate and a hydrogenated xylylene diisocyanate.

19. (Previously presented) A resin composition according to claim 15, wherein the swelling inorganic layered compound (ii) comprises at least one member selected from the group consisting of a water-swelling mica and a montmorillonite.

20. (Previously presented) A resin composition according to claim 15, wherein the ratio of the swelling inorganic compound (ii) relative to the polyurethane resin (i) is 1/100 to 200/100 in terms of solid content.

21. (Previously presented) A gas barrier laminated film comprising a base film, and a layer formed on at least one surface of the base film, wherein the layer comprises an aqueous resin composition recited in claim 15.